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$${}^5A \times {}_{\overline{5}|}33 = 17.9287 \times .06274 = 1.124846$$

$$.05758$$

$${}_{\overline{5}|}A - {}_{\overline{5}|}AB + {}^5A \times {}_{\overline{5}|}33 = 1.182426$$

$$\text{Annual premium} = \frac{1.182426}{1 + {}_{\overline{4}|}AB} = \frac{1.182426}{4.588} = .25772 \text{ for } \text{£}100 \text{ per}$$

annum. Premium in one sum, £118. 4s. 10d., or £25. 15s. 5d. annually.

FORMULA FOR AN APPROXIMATE VALUE OF ANNUITIES AT SIMPLE INTEREST.

To the Editor of the Assurance Magazine.

SIR,—In looking over some old letters, I found one, dated some years back, from Professor De Morgan, in which he gives the following elegant approximation to the value of $\frac{1}{1+r} + \frac{1}{1+2r} + \frac{1}{1+3r} + \dots + \frac{1}{1+nr}$.

He says the best approximation is

$$\frac{2.3205851}{r} \cdot \log. \frac{1+nr}{1+r} + \frac{1}{2} \left(\frac{1}{1+r} + \frac{1}{1+nr} \right) + \frac{r}{12} \left(\frac{1}{(1+r)^2} - \frac{1}{(1+nr)^2} \right) - \frac{r^3}{120} \left(\frac{1}{(1+r)^4} - \frac{1}{(1+nr)^4} \right);$$

error only in the sixth decimal when $r=.1$, or interest at 10 per cent.,

$$\frac{1}{1.1} + \frac{1}{1.2} + \frac{1}{1.3} + \dots + \frac{1}{2.0}.$$

Approximation	.	.	.	.	.	6.687715
Truth	.	.	.	.	.	6.687714

I am, Sir,

Your obedient Servant,

PETER HARDY.

London Assurance, March 10, 1855.

NOTICES OF NEW WORKS.

On the Loans raised by Mr. Pitt during the first French war, 1793—1801, with some Statements in Defence of the Methods of Funding employed. By WILLIAM NEWMARCH, one of the Honorary Secretaries of the Statistical Society. Effingham Wilson, Royal Exchange; Harrison, 59, Pall Mall; and Nissen and Parker, 43, Mark Lane.

WE had occasion some time back (*see* Vol. IV., page 78) to call the attention of our readers to an essay by this gentleman, "On the new supplies of gold," and to express an opinion of its value and importance to all en-